

Algebra 2H Project: Exploring Relationships Between Variables

Algebra gets even more interesting when we explore the relationships between variables:

- The relationship between exercise duration and heart rate
- The relationship between chair height and writing speed
- The relationship between texting speed and accuracy on a math test
- Or anything else that interests you. . .

Gather the data:

- Determine two variables of which you would like to find the relationship. These variables may or may not have an obvious relationship.
- Remember: your data points must describe the same individual!
- Gather the data on your individuals. You will have to think carefully about how to do this.

Show the data:

- Make a scatterplot of your data.
- Include a title, axis labels and appropriate scales.
- Draw the regression line (LSRL) on your scatterplot.

Interpret the data:

- Describe the scatterplot using direction, form, and strength.
- Find the equation of the regression line.
- Discuss what the slope means in context.
- Discuss what the y -intercept means in context.
- Find the correlation coefficient r .
- Interpret the correlation coefficient as it relates to the data. (Is there a strong correlation?)
- Address any outliers (and how you know) and discuss their significance.

Present the data:

- Give a 5-7 minute presentation addressing your topic. You must discuss your findings, your interpretation, and your visual presentation.

Algebra 2H Unit 1 Project:
Exploring Relationships Between Variables

Grading:

Name: _____

- Appropriate and original topic _____/5
- Scatterplot:
 - Title _____/5
 - Axis labels _____/5
 - Appropriate scales _____/5
 - Points correctly plotted _____/10
 - Trend/regression line drawn correctly _____/10
- Scatterplot description (direction, form, strength) _____/10
- Trend/regression line equation _____/5
- Slope description _____/10
- Y-intercept description _____/10
- Correlation description _____/5
- Residual calculation _____/5
- Class Presentation:
 - Discussion of findings _____/5
 - Discussion of interpretation _____/5
 - Discussion of visual presentation _____/5

Score: _____/100

Grade: _____